UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P O Box 1450
Alexandria, Virginia 22313-1450
www uspto gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,576	02/28/2002	Nischal Abrol	010462	9020

23696 7590 01/08/2009
QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER	
NGUYEN, TOAN D	

ART UNIT	PAPER NUMBER
2416	

NOTIFICATION DATE	DELIVERY MODE
01/08/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kascanla@qualcomm.com
nanm@qualcomm.com

Office Action Summary	Application No.	Applicant(s)	
	10/086,576	ABROL ET AL.	
	Examiner	Art Unit	
	TOAN D. NGUYEN	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-7,15 and 17-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-7,15 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 09/18/08 have been fully considered but they are not persuasive.

The applicant argues on page 7, fifth paragraph that W. Simpson does not disclose the FCS value is appended to the end of each PPP packet or an FCS generator for generating and/or checking the FCS value. The examiner disagrees. W. Simpson clearly teaches in the following passage: "...the FCS is calculated over the serial data as it goes out, and the complement of the resulting FCS is appended to the serial stream (the FCS value is appended to the end of each PPP packet or an FCS generator for generating and/or checking the FCS value means), followed by the Flag sequence." (page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 5-7 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asahina (US 2002/0015417) in view of Shacher et al. (US 5,671,223) and Aggarwal et al. (US 6,249,525) further in view of W. Simpson, RFC 1662.

For claim 5, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values, the detection unit is operative to detect for flag bytes in the received data; and

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1), the detection unit is operative to detect for flag bytes in the received data (col. 11, line 67 to col. 12, line 1); and

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose the conversion unit being operative to remove flag and escape bytes in the received data, and the detection unit is operative to detect for escape bytes in the received data. In an analogous art, Aggarwal et al. disclose remove flag and escape bytes in the received data (col. 13, line 66 to col. 14, line 14), and the detection unit is operative to detect for escape bytes in the received data (col. 1, lines 43-44).

One skilled in the art would have recognized the remove flag and escape bytes in the received data, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not expressly disclose a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data. In an analogous art, W. Simpson discloses a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data (section 3.1. Frame Format; Frame Check

Sequence (FCS) Field, and page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

One skilled in the art would have recognized the frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data, and would have applied W.Simpson's Fast Frame Check Sequence (FCS) in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide a good frame is indicated by this good FCS value (page 17, section C. Fast Frame Check Sequence (FCS) Implementation, lines 8-10).

For claim 6, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values, and operative to detect for and remove flag and escape bytes in the received data; and

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1) and operative to detect for flag bytes in the received data (col. 11, line 67 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose operative to detect for and remove escape bytes in the received data, and operative to un-escape a data byte following each detected escape byte in the received data. In an analogous art, Aggarwal et al. disclose operative to detect for and remove escape bytes in the received data, and operative to un-escape a data byte following each detected escape byte in the received data (col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the operative to detect for and remove escape bytes in the received data, and operative to un-escape a data byte following each detected escape byte in the received data, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not expressly disclose a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data. In an analogous art, W. Simpson discloses a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data (section 3.1. Frame Format; Frame Check

Sequence (FCS) Field, and page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

One skilled in the art would have recognized the frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data, and would have applied W.Simpson's Fast Frame Check Sequence (FCS) in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide a good frame is indicated by this good FCS value (page 17, section C. Fast Frame Check Sequence (FCS) Implementation, lines 8-10).

For claim 7, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values and operative to detect for flag bytes in the received data;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1) and operative to detect for flag bytes in the received data (col. 11, line 67 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose operative to detect for escape bytes in the received data; and further operative to provide a header word for each detected flag byte in the received data. In an analogous art, Aggarwal et al. disclose operative to detect for escape bytes in the received data; and further operative to provide a word for each detected flag byte in the received data (col. 1, lines 43-44, and col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the operative to detect for and remove flag and escape bytes in the received data, and operative to un-escape a data byte following each detected escape byte in the received data, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not expressly disclose operative to provide a header word for each detected flag byte in the received data; and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data. In an analogous art, W. Simpson disclose operative to provide a header word for each detected flag byte in the received

data (section 3.1 Frame Format); and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data (section 3.1. Frame Format; Frame Check Sequence (FCS) Field, and page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

One skilled in the art would have recognized the operative to provide a header word for each detected flag byte in the received data, and would have applied W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

For claim 17, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific value.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific value (col. 11, line 65 to col. 12, line 1).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. do not expressly disclose wherein the operating states include an idle state indicative of no deframing being performed and a process state indicative of deframing being performed, and wherein the operating states further

include an escape state indicative of processing for an escape byte and a header state indicative of generation of a header for the deframed data. In an analogous art, Aggarwal et al. disclose wherein the operating states include an idle state indicative of no deframing being performed and a process state indicative of deframing being performed, and wherein the operating states further include an escape state indicative of processing for an escape byte (col. 1, lines 43-44, and col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the wherein the operating states include an idle state indicative of no deframing being performed and a process state indicative of deframing being performed, and wherein the operating states further include an escape state indicative of processing for an escape byte, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not expressly disclose a header state indicative of generation of a header for the deframed data; and a frame check sequence (FCS) generator for checking an FCS value for each

complete PPP packet in the received data. In an analogous art, W. Simpson discloses a header state indicative of generation of a header for the deframed data (section 3.1 Frame Format); and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data (section 3.1. Frame Format; Frame Check Sequence (FCS) Field, and page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

One skilled in the art would have recognized the header state indicative of generation of a header for the deframed data, and would have applied W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

For claim 18, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to process each data byte from

the interface unit, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing;

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit; and

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing (col. 7, lines 10-11);

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit (col. 11, line 65 to col. 12, line 1); and

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention,

to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a header word for each flag byte, and checking each deframed packet based on a flame check sequence (FCS) value associated with the packet; and an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662. In an analogous art, Aggarwal et al. disclose removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a word for each flag byte (col. 1, lines 43-44, and col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a word for each flag byte, and wherein the operating states further include an escape state indicative of processing for an escape byte, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a

connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not expressly disclose providing a header word for each flag byte, an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662; and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data. In an analogous art, W. Simpson discloses providing a header word for each flag byte (page 4, section 3.1 Frame Format), an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662 (See W. Simpson, RFC: 1662); and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data (section 3.1. Frame Format; Frame Check Sequence (FCS) Field, and page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

One skilled in the art would have recognized the providing a header word for each flag byte, and would have applied W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication

system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

For claim 19, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed from one or more Radio Link Protocol (RLP) packet (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to process each data byte from the interface unit, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing;

a detection unit operative to evaluate each data byte from the input interface unit;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

receive an RLP packet of data to be deframed, one word at a time, and for each received word provide one data byte at a time for subsequent processing (col. 7, lines 10-11);

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit (col. 11, line 65 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a header word for each flag byte, and checking each deframed packet based on a flame check sequence (FCS) value associated with the packet; and an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662. In an analogous art, Aggarwal et al. disclose removing flag and escape bytes, un-escaping a data byte

following each escape byte, providing a word for each flag byte (col. 1, lines 43-44, and col. 13, line 66 to col. 14, line 14).

One skilled in the art would have recognized the removing flag and escape bytes, un-escaping a data byte following each escape byte, providing a word for each flag byte, and wherein the operating states further include an escape state indicative of processing for an escape byte, and would have applied Aggarwal et al.'s HDLC operation in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Aggarwal et al.'s method of and apparatus for inserting and/or deleting escape characters into and from data packets and datagrams therefor on high speed data stream networking lines in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being compared with either 7d or 7e or some programmed ACCM characters (col. 14, lines 7-9).

Furthermore, Asahina in view of Shacher et al. and Aggarwal et al. does not expressly disclose providing a header word for each flag byte, an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or more complete or partial PPP packets having a format defined by RFC1662; and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data. In an analogous art, W. Simpson discloses providing a header word for each flag byte (page 4, section 3.1 Frame Format), an output interface unit operative to provide deframed data; and wherein the RLP packet includes one or

more complete or partial PPP packets having a format defined by RFC1662 (See W. Simpson, RFC: 1662); and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data (section 3.1. Frame Format; Frame Check Sequence (FCS) Field, and page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

One skilled in the art would have recognized the providing a header word for each flag byte, and would have applied W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asahina (US 2002/0015417) in view of Shacher et al. (US 5,671,223) further in view of W. Simpson, RFC 1662.

For claim 15, Asahina discloses communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system, comprising:

an input interface unit (figure 4, reference 40) operative wirelessly to receive data to be deframed (page 4, paragraph [0050], lines 1-4); and

a conversion unit (figure 6, references 341-345) operative to deframe the received data based on the first set of control signals to provide deframed data, wherein the received data is PPP packet data (page 5, paragraph [0058], lines 2-7).

However, Asahina does not disclose:

a detection unit operative to evaluate each data byte from the input interface unit to detect for bytes of specific values;

a state control unit operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values.

In an analogous art, Shacher et al. disclose:

a detection unit (figure 9, reference 308) operative to evaluate each data byte from the input interface unit to detect for bytes of specific values (col. 11, line 65 to col. 12, line 1);

a state control unit (figure 9, reference 312) operative to provide a first set of control signals indicative of specific tasks to be performed for deframing based in part on the detected bytes of specific values (col. 12, lines 27-57).

One skilled in the art would have recognized the detection unit, and would have applied Shacher et al.'s detection circuitry 308 in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Shacher et al.'s multichannel HDLC framing/deframing machine in Asahina's communication system between a radio communication network and a connectionless

network and interworking apparatus for use in the communication system with the motivation being to identify flags (col. 11, line 67 to col. 12, line 1).

Asahina in view of Shacher et al. does not expressly disclose operative to provide a first header for a start of the data bloc; and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data. In an analogous art, W. Simpson disclose operative to provide a first header for a start of the data bloc (section 3.1 Frame Format); and a frame check sequence (FCS) generator for checking an FCS value for each complete PPP packet in the received data (section 3.1. Frame Format; Frame Check Sequence (FCS) Field, and page 17, section C. Fast Frame Check Sequence (FCS) Implementation).

One skilled in the art would have recognized the operative to provide a first header for a start of the data bloc, and would have applied W.Simpson's frame format in Asahina's interworking 40. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use W. Simpson's PPP in HDLC-like Framing in Asahina's communication system between a radio communication network and a connectionless network and interworking apparatus for use in the communication system with the motivation being to provide the PPP HDLC-like frame structure (section 3.1 Frame Format).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

7. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOAN D. NGUYEN whose telephone number is (571)272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. D. N./
Examiner, Art Unit 2416

/Chi H Pham/
Supervisory Patent Examiner, Art Unit 2416
1/2/09

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/086,576	ABROL ET AL.	
	Examiner	**Art Unit**	
	TOAN D. NGUYEN	2416	